

### **REMARKS**

This is a full and timely response to the non-final Office Action of September 8, 2004. Reexamination, reconsideration, and allowance of the application and all presently pending claims are respectfully requested.

Upon entry of this First Response, claims 1-18 and 22 to 34 are pending in this application and claims 19-21 and 35-40 have been cancelled. It is believed that the foregoing amendments add no new matter to the pending claims of the present application.

### **Response to §103 Rejections**

In order for a claim to be properly rejected under 35 U.S.C. §103, the combined teachings of the prior art references must suggest all features of the claimed invention to one of ordinary skill in the art. See, *e.g.*, *In Re Dow Chemical*, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988), and *In re Keller*, 208 U.S.P.Q. 871, 881 (C.C.P.A. 1981). In addition, “(t)he PTO has the burden under section 103 to establish a *prima facie* case of obviousness.” *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988) (Citations omitted).

### Claim 1

Claim 1 presently stands rejected under 35 U.S.C. §103 as purportedly being unpatentable over *Reyes* (Publication No. 2003/0006881) in view of *Beyers* (U.S. Patent No. 5,235,619). Claim 1 as amended presently reads as follows:

1. A method for extending the range of an RF communication system using a high voltage (HV) cable and neutral cable as the transmission channel, where the voltage between the cable and neutral is equal to or greater than 4,000 volts and the HV cable is carrying low-frequency current of a power distribution system, the method comprising the steps of:

transmitting over the **transmission channel**, an RF signal from a central location downstream towards a remote location;

**splitting the HV cable into an upstream segment and a downstream segment where the segments are RF isolated and low-frequency connected;**

receiving the RF signal from the **upstream segment** at a first port of a reconditioner;

directing a reconditioned RF signal from a second port of the reconditioner to the **downstream segment of the HV cable**. (Emphasis added).

Applicant respectfully assert that the cited art fails to suggest or teach at least the features of pending claim 1 highlighted hereinabove, and the rejection of claim 1 is, therefore, improper.

In this regard, it is asserted in the outstanding Office Action that:

“*Reyes* teaches a method for extending the range of an RF communication system using a HV cable and neutral cable as the transmission channel.”

The Applicant asserts *Reyes* teaches a system and method for providing power line communication within the wiring of a building or home (page 1, paragraph 6). The wiring in a building or home described by *Reyes* is for 110 V from either line 114 or 116 to neutral 118 as shown in FIG. 1B. In house wire (or cable) for the 110 V system typically has an insulation breakdown voltage between wires of around 600 V. The HV of the claim 1 is equal to or greater than 4000 volts. The Applicant therefore asserts that *Reyes* does not have a HV system.

The Examiner on page 2 of the Office Action admits that Reyes fails to teach the transmitting, splitting, receiving and directing steps of claim 1

Beyers describes a system that uses coaxial cable as the transmission medium for providing cable television and RF return. Because coaxial cable is not designed to transmit low frequency current at voltages greater than 4000 volts *Beyers* does not have a HV cable as asserted by the Examiner. Hence *Beyers* does not teach transmitting an RF signal on a HV cable, splitting a HV cable into segments, receiving signals from the upstream segment (of a HV cable), or directing a reconditioned RF signal to the downstream segment of the HV cable.

The Applicant does not believe that coaxial cables (low voltage cables) and HV cables are in the “same field of endeavor” as stated by the Examiner.

Because neither *Reyes* or *Beyers* teach the steps of claim 1, the combination of Reyes and *Beyers* does not teach the steps of claim 1.

Since *Reyes* does not teach the use of a transmission channel comprised of a HV cable and a neutral cable he does not teach the transmitting step of claim 1. Further the Office Action admits *Reyes* does not teach the splitting, receiving and directing steps of claim 1.

For at least the foregoing reasons, Applicants respectfully assert that the 35 U.S.C. §103 rejection of claim 1 is improper and should be withdrawn.

### Claims 2, 3, 4, 5, and 6

Claims 2, 3, 4, 5 and 6 presently stand rejected in the Office Action under 35 U.S.C. §103 as allegedly being unpatentable over *Reyes* in view of *Beyers*. Applicant submits that the pending dependent claims 2, 3, 4, 5 and 6 contain all features of their respective independent claim 1. Since claim 1 should be allowed, as argued hereinabove, pending dependent claims 2, 3, 4, 5 and 6 should be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

### Claim 7

Claim 7 presently stands rejected under 35 U.S.C. §103 as purportedly being unpatentable over *Reyes* in view of *Beyers*. Claim 7 presently reads as follows:

7. A method for extending the range of an RF communication system using a high voltage cable and neutral as the transmission channel comprising the steps of:  
    **forming a first segment and a second segment of the HV cable wherein the segments are low frequency connected and RF isolated;**  
    providing couplers for **RF coupling the segments** to ports on a reconitioner; and  
    installing the reconitioner for **reconditioning RF signals from each of the segments**. (Emphasis added)

Applicants asserts that because neither *Reyes* nor *Beyers* form segments of a HV cable (since neither discloses or suggests a HV cable) then *Reyes* in view of *Beyers* fails to teach the forming step. Since the providing and installing step uses the (HV) segments *Reyes* in view of *Beyers* fails to teach these steps.

### Claims 8, 9, 10 and 11

Claims 8, 9, 10 and 11 presently stand rejected in the Office Action under 35 U.S.C. §103 as allegedly being unpatentable over *Reyes* in view of *Beyers*. Applicants submit that the pending dependent claims 8, 9, 10, and 11 contain all features of their respective independent claim 7. Since claim 7 should be allowed, as argued hereinabove, pending dependent claims 8, 9, 10, and 11 should be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

### Claim 12

Claim 12 presently stands rejected under 35 U.S.C. §103 as purportedly being unpatentable over *Reyes* in view of *Beyers*. Claim 12 presently reads as follows:

12. An apparatus for isolating RF signals in a broadband data communication system having a HV cable and a neutral cable as a communication channel, the apparatus comprising:
- a first RF signal on the HV cable;**
  - a second RF signal on the HV cable;**
  - an isolation filter for electrically isolating the first RF signal from the second RF signal, the isolation filter **comprising a ladder network of one or more ferrites clamped on the HV cable and one or more capacitors connected between the HV cable and the neutral cable;** and
  - RF couplers on each side of the isolation filter** for coupling the RF signals to ports of a reconditioner. (Emphasis added)

Applicant asserts that for at least the reasons discussed relative to claim 1 that claim 12 is allowable. Accordingly, the 35 U.S.C. §103 rejection of claim 12 is improper and should be withdrawn.

### **Claims 13, 14, 15, 16, 17, and 18**

Claims 13, 14, 15, 16, 17, and 18 presently stand rejected in the Office Action under 35 U.S.C. §103 as allegedly being unpatentable over *Reyes* in view of *Beyers*. Applicants submit that the pending dependent claims 13, 14, 15, 16, 17, and 18 contain all features of their respective independent claim 12. Since claim 12 should be allowed, as argued hereinabove, pending dependent claims 13, 14, 15, 16, 17, and 18 should be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

### **Claim 19, 20, and 21 have been cancelled**

### **Claim 22**

Claim 22 presently stands rejected under 35 U.S.C. §103 as purportedly being unpatentable over *Reyes* in view of *Laubach*. Claim 22 presently reads as follows:

22. An apparatus for RF by-passing a power factor correction capacitor on a high voltage cable and directing communication signals to a reconditioner, the apparatus comprising:

**a plurality of ferrites clamped on the high voltage cable next to the node formed by the high voltage cable and one lead of the capacitor; and**  
couplers connected to the **high voltage cable** and the reconditioner.  
(Emphasis added)

Applicant asserts that for the *Reyes* does not have a high voltage cable he does not disclose a plurality of ferrites claimed to a high voltage cable nor does he teach couplers connected to a high voltage cable. In addition the Applicant asserts that CATV teaching of *Laubach* (U.S. Patent No. 5,235,619) is directed to coaxial cables and not to a HV transmission channel. Therefore *Reyes* in view of *Laubach* do not teach, disclose or suggest either of the elements of claim 22. Accordingly, the 35 U.S.C. §103 rejection of claim 22 is improper and should be withdrawn.

### Claims 23 and 24

Claims 23 and 23 presently stand rejected in the Office Action under 35 U.S.C. §103 as allegedly being unpatentable over *Reyes* in view of *Laubach*. Applicants submit that the pending dependent claims 23 and 23 contain all features of their respective independent claim 22. Since claim 22 should be allowed, as argued hereinabove, pending dependent claims 23 and 23 should be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

### Claim 25

Claim 25 presently stands rejected under 35 U.S.C. §102 as purportedly being anticipated by *Beyers*. Claim 25 presently reads as follows:

25. An apparatus for distributing RF communication signals from a **HV cable** to and from a **plurality of HV branch circuits**, the apparatus comprising:  
a plurality of low pass filters for RF isolating the **HV cable** from each of the **HV branch circuits**;  
a plurality of couplers where one coupler is connected to the **HV cable** and to each of the **HV branch circuits**, and  
a reconditioner having a **HV cable port** and a branch port for each of the **HV branch circuits**, the reconditioner having amplifiers and filters for directing and conditioning the communication signals. (Emphasis added)

Applicant asserts that for the reasons discussed relative *Beyers* concerning claim 1 that claim 25 is allowable. Accordingly, the 35 U.S.C. §102 rejection of claim 25 is improper and should be withdrawn.

### Claims 26, 27 and 28

Claims 26, 27 and 28 presently stand rejected in the Office Action under 35 U.S.C. §103(a) as allegedly being unpatentable over *Breyers* in view of *Reyes*. Because *Reyes* does not teach any of

the elements of claim 25, claim 25 is also allowable under 35 U.S.C. §103(a). Applicant submits that the pending dependent claims 26, 27 and 28 contain all features of their respective independent claim 25. Since claim 25 should be allowed, as argued hereinabove, pending dependent claims 26, 27 and 28 should be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

### Claim 29-31

Claim 29-31 presently stand rejected under 35 U.S.C. §103(a) as purportedly being unpatentable over Reyes in view of Laubach. Claim 29 presently reads as follows:

29. An apparatus coupling a communication signal from a **transmission cable** of a power system feeding a **distribution substation** to a distribution cable of a power system exiting the distribution substation, the apparatus comprising:  
a transmission blocking filter for blocking the communication signal from entering the **distribution substation by way of the transmission cable**;  
a transmission coupler connected to the **transmission cable**;  
a distribution blocking filter for blocking RF energy from entering the **distribution cable by way of the distribution cable**;  
a distribution coupler connected to the **distribution cable**; and  
a reconitioner having ports connected to the couplers, the reconitioner comprising directional couplers and amplifiers. (Emphasis added)

Because Reyes system is for distribution of RF within a home or office as discussed relative to claim 1 he does not disclose or suggest a communication system using **distribution cables, distribution substation or transmission cables**. FIG. 7 of the Applicant's specification illustrates transmission cables (771, 772 and 773) having voltages of 46,000 V or higher and illustrates distribution cables (782, 782, 783) having voltages of 13,800 V and (791, 792, 793) having voltages of 4,000 V. For the above reasons and the reasons discussed relative to claim 1, claim 29 and dependent claims 31 and 32 are allowable as a matter of law.



### **Claim 32-34**

Claim 32-34 presently stand rejected under 35 U.S.C. §103(a) as purportedly being unpatentable over *Reyes* in view of *Laubach*. Claim 32 presently reads as follows:

32. (Once amended) An apparatus for coupling a communication signal on an RF coaxial cable to HV cable for upstream and downstream communication, the apparatus comprising:
- a low pass filter for isolating and segmenting the **HV cable** to a downstream side and an upstream side;
  - a reconditioner having a coaxial port for receiving the coaxial cable and two **HV cable ports**, and
  - two couplers for coupling the HV cable ports to each side of the **HV cable**.  
(Emphasis added)

For the above reasons and the reasons discussed relative to claim 29, claim 32 and dependent claims 33 and 34 are allowable

### **Claims 35 to 40 have been cancelled**

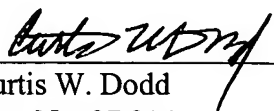
### Allowable Subject Matter

Claims 1-12, 22, 25 and 32 have been amended. Claims 13-18, 23-24, 26-31 and 33-34 are in their original form. Applicant requests that the rejection of claims 1-18 and 22-34 be withdrawn for least the reasons set forth hereinabove. Claims 19-21 and 35-40 have been cancelled. Applicant submits that the prior art cited for the rejections has been traversed and that the claims should be allowed. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

### CONCLUSION

Applicant respectfully request that all outstanding objections and rejections be withdrawn and that this application and all presently pending claims be allowed to issue. If the Examiner has any questions or comments regarding Applicant's response, the Examiner is encouraged to telephone Applicant's undersigned representative.

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